Explorers Program

March 2002

Explorer Program Mission

The mission of the Explorer Program is to provide frequent flight opportunities for world-class scientific investigations from space within the following space science themes:

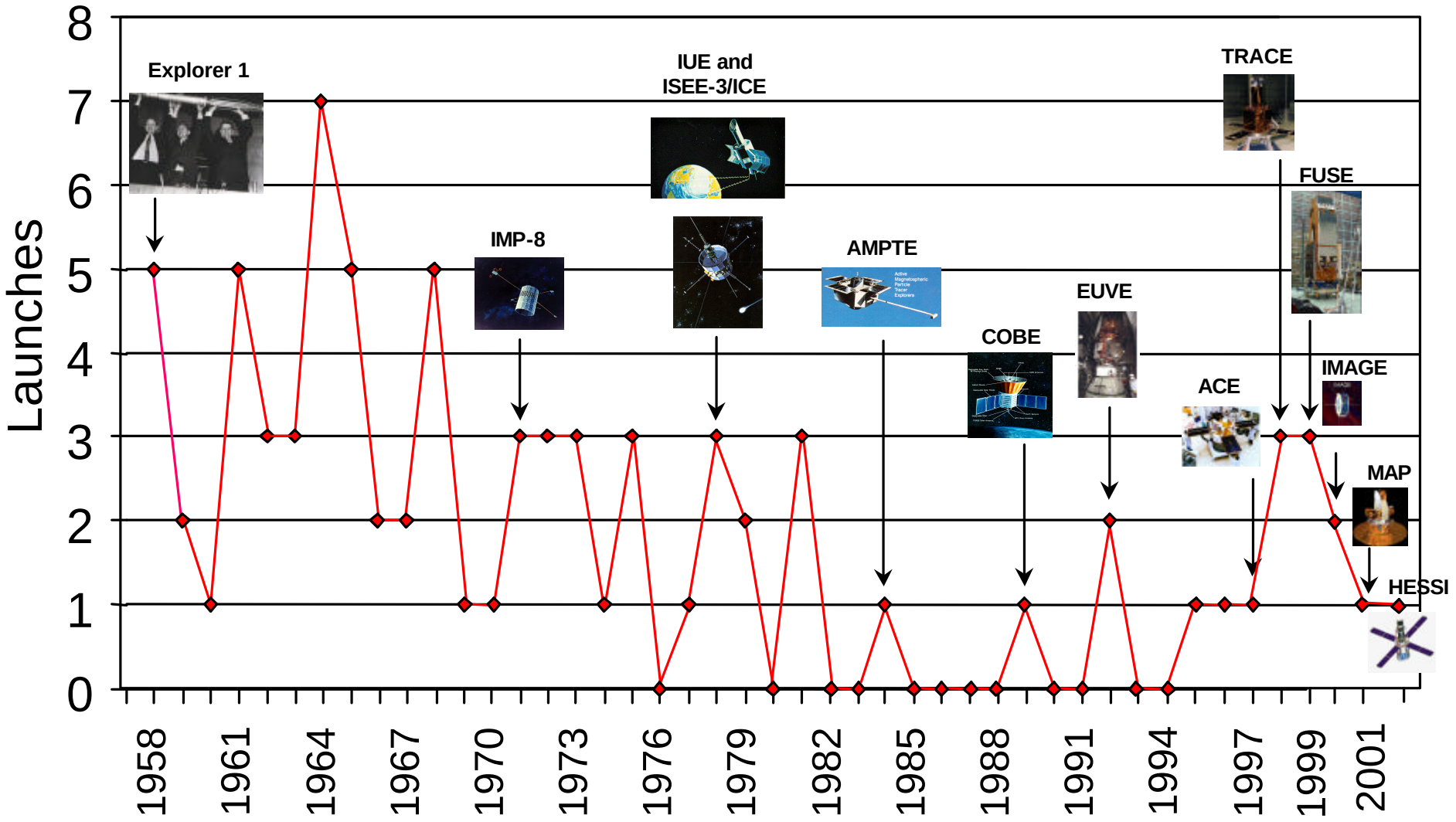
- Astronomical Search for Origins and Planetary Systems
- Structure and Evolution of the Universe
- The Sun-Earth Connection

America's space exploration started with Explorer 1

- Launched February 1, 1958
- Discovered the Van Allen Radiation Belts
- Over 75 Explorer missions have flown

The program seeks to enhance public awareness of, and appreciation for, space science and to incorporate educational and public outreach activities as integral parts of space science investigations.

A Brief History of Explorers



Explorer Program Requirements

- Explorer mission requirements start with the release of the NASA Headquarters Announcement of Opportunity
- This document invites proposals for the Office of Space Science (OSS) and contains the detailed directions, constraints and guidelines for the submissions
- Selection of an investigation is made after a formal evaluation process
- The GSFC Explorers Program then executes the management of those selected investigations

Explorer Program Requirements

- Typically, the selected investigations are funded by phase through mission operations. However, readiness must first be demonstrated before moving into the next phase of development. Confirmation and approval by NASA OSS is required before moving to the next phase.

- All Explorer projects are cost capped. The cost cap applies to the full life cycle cost from formulation through data analysis.

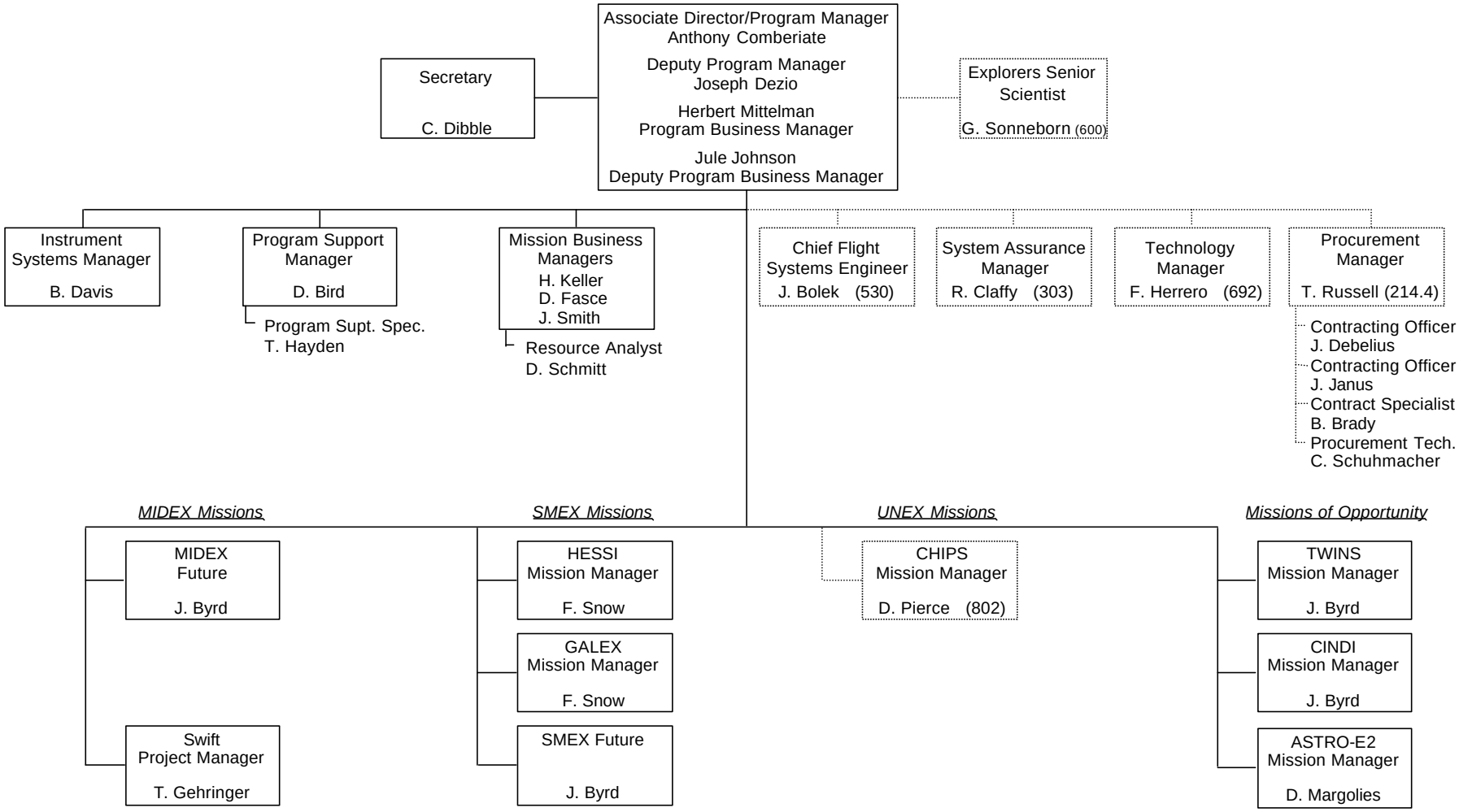
PI-Mode Management Responsibility

- The PI is responsible for mission scientific and programmatic success and safety
- GSFC is responsible for ensuring the PI takes the appropriate actions to achieve mission success within his/her committed cost, schedule, and safety reliability and quality assurance requirements
- HQ is responsible to select missions that can be accomplished within NASA requirements and constraints

PI-Mode Management Responsibility

- The GSFC Program is fulfilling its responsibility by providing value-added to the PI as follows:
  - NASA Project Manager is COTR and a member of the PI's project team
  - NASA Project Manager recommends courses of action and helps obtain government resources when requested
  - NASA system and discipline engineering participates with the PI's engineering team, as requested
  - NASA provides independent system reviews
  - NASA resource and business staff help maintain insight and provide recommendations through contract analysis and personal contacts
- The PI understands that the Program will call a Program or Cancellation Review if the PI is headed outside his "box"
- The Program provides insight to NASA management through monthly reviews, weekly reporting, timely notification of problems/resolution plans, and involvement in special reviews

Explorer Program



(Original Signed By)

Anthony Comberiate Date
Program Manager

PI-Mode Tailored Management

- Every PI Mission is unique. Factors which vary from mission to mission include:
  - Complexity of mission and problems encountered
  - Experience base of PI Team
  - Project Management experience of PI & PI Institution
  - Receptiveness to Goddard involvement

Therefore:

- The extent of Goddard involvement varies from mission to mission, and with time for a given mission

PI-Mode Mission Evaluation and Selection Process

- In PI-mode, the NASA HQ AO selection process is crucial
  - PI Mission Teaming arrangements, management, and key personnel must be well-defined and prepared to execute the mission upon final selection
  - If the mission has any flaws, they are difficult to fix after final selection
  - NASA requirements on the mission are delineated in the AO
- Technical, Management, Cost and Other factors (TMCO) evaluations are critical to selecting and implementing a successful mission
  - Mission implementation feasibility must be equal to scientific merit in final selection criteria
- During Phase B, the Program must assure the PI addresses and corrects weaknesses identified during TMCO evaluation
  - PI-Mode Programs include the implementing Program Office as an ex-officio member of the TMCO panel

Missions Beyond Prime (Extended Operations)

Submillimeter Wave Astronomy Satellite (SWAS)

Launch Date
December 5, 1998

Transition Region and Coronal Explorer (TRACE)

Launch Date
April 1, 1998

Advanced Composition Explorer (ACE)

Launch Date
August 25, 1997

Fast Auroral Snapshot Explorer (FAST)

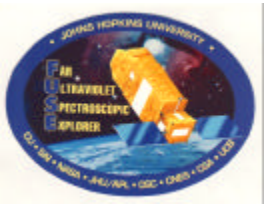
Launch Date
August 21, 1996

Solar Anomalous and Magnetospheric Particle Explorer (SAMPEX)

Launch Date
July 3, 1992

Explorer Missions in Prime Operations

Far Ultraviolet Spectroscopic Explorer (FUSE)

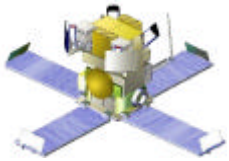


Launch Date
June 24, 1999

Imager for Magnetopause-to-Aurora Global Exploration (IMAGE)

Launch Date
March 25, 2000

High Energy Transient Explorer-2 (HETE-2)



Launch Date
October 9, 2000

Microwave Anisotropy Probe (MAP)

Launch Date
June 2001

High Energy Solar Spectroscopic Imager (HESSI)

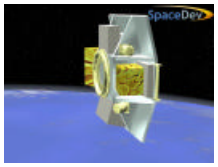
Launch Date
February 2002

Explorer Missions in Development

Galaxy Evolution Explorer (GALEX)

Launch Date
July 2002

Cosmic Hot Interstellar Plasma Spectrometer (CHIPS)



Launch Date
December 2002

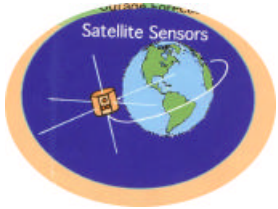
Two Wide-Angle Imaging Neutral-Atom Spectrometers (TWINS)

Launch Date
4th Qtr. 2003
1st Qtr. 2005

Swift
(not an acronym)

Launch Date
September 2003

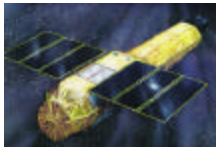
Coupled Ion-Neutral Dynamics Investigations (CINDI)



Launch Date
October 2003

Explorer Missions in Formulation

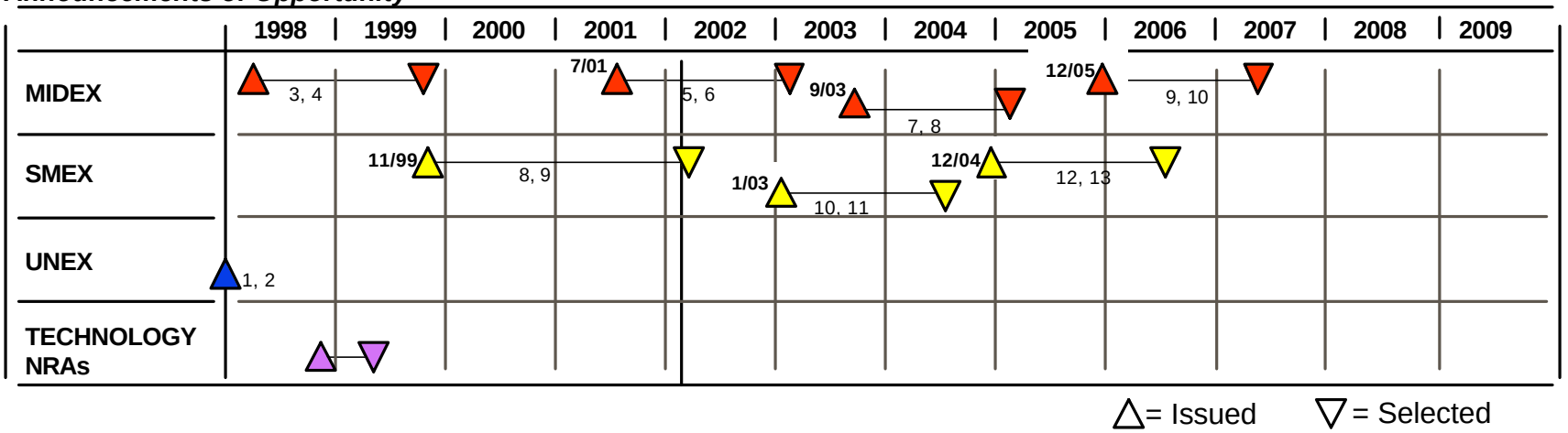
Astro - E2
(not an acronym)



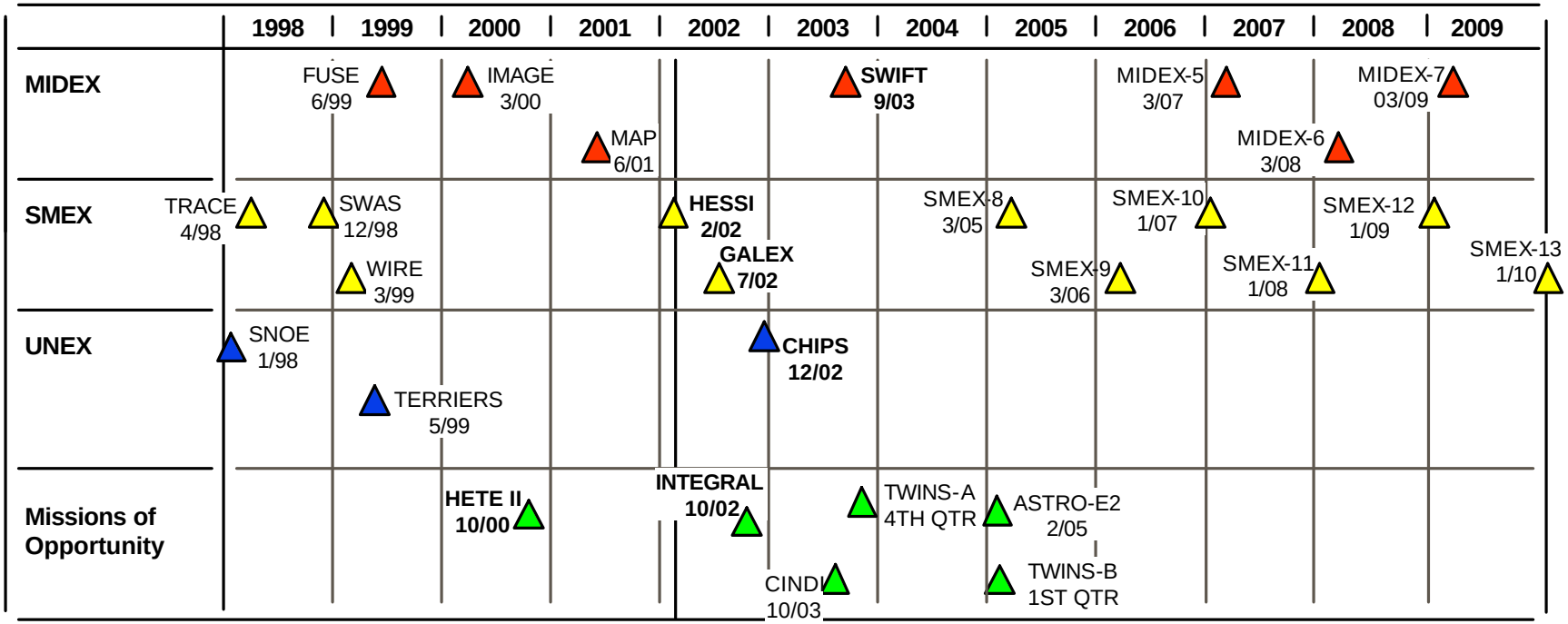
Launch Date
February 2005

Explorers Schedule
(POP 02-1 Budget Guideline)

Announcements of Opportunity **2/28/02**



Launch Schedule



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Robert Goddard - First American Mission PI

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